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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,683

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Ole Klemmt Andersen

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

FISCHER, MARK L

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

07/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,683

Applicant(s)

ANDERSEN ET AL.

Examiner

MARK FISCHER

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. In response to the Amendment filed on April 7, 2008. Claims 1-6 are amended.
2. Please note that the Art Unit designation has changed. The current Art Unit designation is now AU 2627 and it should be used for all incoming correspondence.
3. Please note that this case has been transferred from Examiner Christopher Richardson to Examiner Mark Fischer.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the diffractive structure attached to one surface of a servo-lens (as per claim 2), the diffractive structure attached to one surface of an objective lens (as per claim 3), and the diffractive structure attached to a separate plate (as per claim 4) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because it exceeds the 150 word limit. Correction is required. See MPEP § 608.01(b).

Claim Objections

6. Claim 1 is objected to because of the following informalities: On the last two lines of claim 1, the limitation "returning second beam" should be changed to --second backward beam-- in order to follow the terminology presented earlier in the claim. On the last line of claim 1, "detector" should be changed to --optical detector--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation “a first disc having a first cover layer” (lines 9-10) which is confusing in light of the “optical disc” recited in lines 2-3 that is said to be scanned by the optical scanning means. Additionally, claims 2-6 are rejected for their dependence on rejected parent claim 1.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US Pat. No. 6,545,958 B1) in view of Fukusawa et al. (US Pat. No. 7,064,900 B2).

Regarding claim 1, Hirai et al. discloses an optical disc drive comprising rotating means (col. 19, line 44), defining a rotating axis for an optical disc, and optical scanning means (Fig. 10), for scanning the optical disc with a light beam, the optical scanning means themselves comprising at least: a first light source (Fig. 10, element 1a), for producing a first light beam; focusing means (5) for focusing the first light beam, the focusing means being provided between the first light source and a focusing point on an information layer (6a) on a first disc (6) having a first cover layer (bottom of element 6 in Fig. 10); an optical detector (8) for receiving a first backward beam reflected from the information layer of the first disc; a second light source (1b) for producing a second light beam, the second light beam also being transmitted to the focusing means (5), the second light beam forming, on the optical detector (8), a second spot corresponding to a second backward beam obtained after reflection of the second light beam on the information layer of the first disc, a position of the second spot on the optical detector being used to measure tilt (col. 17, lines 44-46 and Fig. 5B shows a position on the detector); and a structure (element 12) for substantially refocusing (astigmatism, col. 17, lines 37-38, where it is well-known in the art that optical disc drives use an astigmatic lens for focusing) the returning second beam onto the detector. Hirai et al. does not explicitly disclose a diffractive structure (12) arranged between the focusing point and the optical detector, the diffractive structure having diffracting elements for correcting astigmatism. However, Fukusawa et al. discloses that a

diffraction element may be used to correct astigmatism of return light from an optical disk (i.e. between focusing point and optical detector) for focus adjustment (column 26, lines 60-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hirai et al. with Fukusawa et al. with the motivation to combine a well-known element (diffraction element) with the structure (element 12) of Fukusawa to perform the same function.

Regarding claim 2, Hirai et al. in view of Fukusawa et al. discloses that the diffractive structure (column 26, lines 60-65 of Fukusawa et al.) is attached to one surface of a servo-lens (i.e. element 12 of Hirai et al.) element positioned just before the optical detector, because the location of the diffractive structure is a design choice as the location of the diffractive structure is irrelevant as it still solves the same problem. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the diffractive structure to one surface of element 12 of Hirai et al. with the motivation to optimize the performance of the apparatus through positioning of the optical elements.

Regarding claim 3, Hirai et al. in view of Fukusawa et al. discloses that the diffractive structure (column 26, lines 60-65) is attached to one surface of an objective lens (i.e. element 5 of Hirai et al.) used as focusing means, because the location of the diffractive structure is a design choice as the location of the diffractive structure is irrelevant as it still solves the same problem. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the diffractive structure to one surface of element 5 of Hirai et al. with the motivation to optimize the performance of the apparatus through positioning of the optical elements.

Regarding claim 4, Hirai et al. in view of Fukusawa et al. discloses that the diffractive structure (column 26, lines 60-65) is attached to a separate plate (i.e. element 11 of Hirai et al.), because it would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the diffractive structure to one surface of element 11 of Hirai et al. with the motivation to optimize the performance of the apparatus through positioning of the optical elements.

13. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirai et al. (US Pat. No. 6,545,958 B1) in view of Fukusawa et al. (US Pat. No. 7,064,900 B2) further in view of Hendriks et al. (US Pub. No. 2002/0118427 A1).

Regarding claim 5, Hirai et al. in view of Fukusawa et al. does not explicitly disclose that the diffractive structure consists of a series of ring-shaped prisms. However, Hendriks et al. discloses that a diffractive structure may consist of a series of ring-shaped prisms (see Fig. 2b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hirai et al. in view of Fukusawa et al. with Hendriks et al. with the motivation to use a well-known type of diffractive structure that has been previously used in optical apparatuses.

Regarding claim 6, Hirai et al. in view of Fukusawa et al. does not explicitly disclose that the diffractive structure is approximated by a step-wise structure. However, Hendriks et al. discloses that a diffractive structure may be approximated by a step-wise structure (see Fig. 3b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hirai et al. in view of Fukusawa et al. with Hendriks et al. with the

motivation to use a well-known type of diffractive structure that has been previously used in optical apparatuses.

Response to Arguments

14. Applicant's amendment to the Abstract (discussed in Remarks, page 6, lines 2-3) in regards to the objection to the Specification has been reviewed, and while the Examiner agrees that the amended Abstract does not include implicit phrases and legal claim phraseology, the Abstract is not within the range of 50 to 150 words. Thus, the objection to the Specification still holds.

15. Applicant's amendments to the claims (discussed in Remarks, page 6, lines 4-6) have been reviewed and are accepted.

16. Applicant's arguments (Remarks, page 6, line 23 to page 7, line 4) with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Hirai et al. (US Pat. No. 6,545,958 B1) in view of Fukusawa et al. (US Pat. No. 7,064,900 B2).

17. Applicant's arguments (Remarks, page 7, lines 5-12) with respect to the use of the Hendriks et al. (US Pub. No. 2002/0118427 A1) reference has been considered, but is not persuasive. Applicant argues that Hendriks et al. discloses that the diffractive part is for focusing onto an information layer of the optical disc rather than to the optical detector. However, paragraph [0009] of Hendriks et al. discloses that the diffractive part can be used in reflection (i.e. a return beam reflected from the optical disc, and thus to be incident on the optical detector).

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Miyake (US Pat. No. 7,310,295 B2).

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK FISCHER whose telephone number is (571) 270-3549. The examiner can normally be reached on Monday-Friday from 9:00AM to 6:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Fischer/
Examiner, Art Unit 2627
6/25/2008
/HOA T NGUYEN/
Supervisory Patent Examiner, Art Unit 2627